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THE INSECT PEST SURVEY BULLETIN

A periodical review of entomological conditions throughout the United States,
issued on the first of each month from April to November, inclusive.

Volume 5

April 1, 1925

Number 1

BUREAU OF ENTOMOLOGY
UNITED STATES
DEPARTMENT OF AGRICULTURE
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acting as Reporters for the Insect Pest Survey

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| Wyoming | Mr. C. L. Corkins, Agricultural Experiment Station, Laramie. |

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES

FOR THE PERIOD FROM NOVEMBER 1, 1924, to APRIL 1, 1925

With this number the Survey opens the fifth Volume of its Bulletin. We note with extreme gratification the rapid fruition of our efforts to standardize methods of estimating insect abundance for Survey work.

In this initial number of the volume is a very extensive paper tabulating minutely observations on the abundance of grasshoppers under varying meteorological conditions. There is also a detailed estimate on the relative abundance of the Hessian fly over the southern Middle Atlantic States. Under the San Jose scale is given the results of a very definite count made in connection with investigations of the effect of severe winter temperatures on this insect in Missouri. Further on is the cotton boll weevil count made in Louisiana, and a few pages beyond this a report on very definite estimates of the damage done by the sugarcane borer. Thus on, throughout the Bulletin, can be observed a decided difference in the type of note to that recorded in Volume 1, when the Survey was just starting its work and feeling its way for a better method of procedure.

The general feeling among entomologists that the suggestion made in launching the Insect Pest Survey that its ultimate aim should be entomological forecasting seems to have changed from a rather skeptical tolerance to an active interest. This is evidenced by the many papers that have appeared during the last three years attempting the correlation of meteorological factors with insect abundance. These correlations, of course, would be wasted effort if there was not the hope that they might lead to an interpretation of the effect of environmental factors on insect development which in turn might lead eventually to a forecasting of the probable future development of a given pest.

The grasshopper situation in the Southwest is threatening, despite newspaper reports to the effect that the grasshopper eggs had been killed by cold weather.

The Hessian fly situation as a whole is not serious. Over the Middle Atlantic States fall counts show a decided decrease over 1923. In the Middle and Western States late planting campaigns seem to have been extremely successful.

The chinch bug situation is generally satisfactory. Reports of decided decrease in numbers are being received from practically the entire belt.

The green bug has not yet given any evidence of being a dangerous pest this spring.

The army cutworm is reported as being very abundant in south central Kansas, northwestern Oklahoma, western Nebraska, northern Colorado and Wyoming. How serious this outbreak will be has not yet been intimated.

Reports from Ohio, Illinois, Missouri, and Idaho indicate that unusually low temperatures during the winter produced a very high mortality of the San Jose scale.

The citrus aphid (Aphis spiraeicola Patch) has appeared in threatening numbers in the Orlando section of Florida, considerably north of the region heavily infested last year.

The Australian tomato weevil is proving a very serious pest to turnips in southern Mississippi this spring.

The celery leaf-tyer is developing to such an extent in the early truck section about Sanford, Fla., that it may cause considerable damage unless active control measures are undertaken.

The boll weevil situation in Louisiana, as far as hibernation is concerned, is generally favorable. The number of weevils per ton of moss is about the same as last year.

A recent survey covering the lumber sections from Alabama to Texas indicated that approximately 70,000,000 feet of pine timber was dead or dying. Although drought seems to have been the primary cause of this loss, bark-beetles of several species are present in such great numbers as to be an important factor.

Dr. W. E. Britton and Mr. B. I. Shannon submitted independent notes on the collecting of the recently introduced fly Muscina pascuorum Meig. in Connecticut, Maryland, and Virginia.

CEREAL AND FORAGE - CROP INSECTS

MISCELLANEOUS FEEDERS

GRASSHOPPERS (Acridiidae)

Missouri

L. Haseman (March 18): Not threatening in Missouri.

Texas

(Dispatch received from Fort Worth, Texas, February 5 and published in The Star, Washington, D. C.): Grasshoppers, which for the last four years have eaten up thousands of acres of cotton and grain and have even damaged trees in West Texas, have finally been eliminated by the unprecedented cold weather of this winter. From all sections come reports that the grasshopper eggs have been killed by the 30-day freeze.

Monthly Letter, Bureau of Entomology, No. 130 (February): C. H. Gable, of the San Antonio laboratory, conducted a scouting expedition during the week of February 2 for the purpose of determining the grasshopper situation in Brown and McCulloch Counties. He found that although reports had been circulated to the effect that most of the eggs had been killed, more than 90 per cent of them were still in hatchable condition, and there were strong indications of serious trouble in that part of the State again this year. Later reports regarding the grasshopper situation in northern Texas are of a similar character.

F. L. Thomas (March 26): Recently hatched in a field near College Station.

Montana

A Summary of the Work Done by the Grasshopper Laboratories as Outlined at the Conference at Winnipeg, follows;

Climatological Factors

Observations of the following weather factors were taken hourly and sometimes half-hourly. These factors were temperature at four feet above the ground, relative humidity, barometric pressure, sky, and wind velocity. The following results were obtained from averaging the number of grasshoppers feeding and the weather factors for each hour. It was utterly impossible to average wind velocity and clearness of sky because they are not given numerically.

(a) Result of work done at Billings, Montana, 1923:

An average day showing the influence of weather factors on grasshopper feeding:

| Hour | Average : :No.feeding: | Average : temp. : | Average : humid. : | Average : bar. P.:: | Hour | Average : :No.feeding: | Aver.: temp.: | Aver.: humid.: | Aver.: bar.P. |
|-------|---------------------------|----------------------|-----------------------|------------------------|------|---------------------------|------------------|-------------------|------------------|
| 6-7 | 13 | 64.3 | 80.8 | 26.74 | 12-1 | 78 | 80.8 | 56.1 | 26.63 |
| 7-8 | 37 | 67.7 | 76.2 | 26.37 | 1-2 | 70 | 83.6 | 51.5 | 26.60 |
| 8-9 | 71 | 71.3 | 70.9 | 26.75 | 2-3 | 77 | 83.7 | 51.7 | 26.48 |
| 9-10 | 118 | 74.0 | 66.0 | 26.74 | 3-4 | 70 | 83.5 | 50.3 | 26.40 |
| 10-11 | 105 | 77.0 | 60.5 | 26.65 | 4-5 | 40 | 83.2 | 51.1 | 26.54 |
| 11-12 | 79 | 78.8 | 58.3 | 26.65 | 5-6 | 12 | 80.6 | 54.3 | 26.53 |

(b) Result of work done at Billings, Montana, 1924:

An average day showing the influence of weather factors on grasshopper feeding:

| Time | : Average | : Average | : Average | :: | Time | : Average | : Average | : Average | |
|-------------|--------------|-----------|--------------|----|-------------|--------------|-----------|-----------|--|
| | :No.feeding: | temp. | :Rel.humid.: | | | :No.feeding: | temp. | :Rel.humi | |
| 6:00-6:30 | : 71 | : 59 | : 77 | :: | 12:00-12:30 | : 179 | : 80 | : 38 | |
| 6:30-7:00 | : 190 | : 60 | : 68 | :: | 12:30-1:00 | : 205 | : 80 | : 39 | |
| 7:00-7:30 | : 135 | : 62 | : 65 | :: | 1:00-1:30 | : 202 | : 81 | : 35 | |
| 7:30-8:00 | : 175 | : 63 | : 64 | :: | 1:30-2:00 | : 171 | : 81 | : 35 | |
| 8:00-8:30 | : 179 | : 66 | : 58 | :: | 2:00-2:30 | : 181 | : 82 | : 33 | |
| 8:30-9:00 | : 207 | : 67 | : 53 | :: | 2:30-3:00 | : 152 | : 84 | : 32 | |
| 9:00-9:30 | : 247 | : 69 | : 51 | :: | 3:00-3:30 | : 114 | : 84 | : 30 | |
| 9:30-10:00 | : 232 | : 72 | : 49 | :: | 3:30-4:00 | : 70 | : 84 | : 30 | |
| 10:00-10:30 | : 218 | : 73 | : 45 | :: | 4:00-4:30 | : 61 | : 81 | : 32 | |
| 10:30-11:00 | : 238 | : 75 | : 44 | :: | 4:30-5:00 | : 46 | : 82 | : 32 | |
| 11:00-11:30 | : 339 | : 77 | : 41 | :: | 5:00-5:30 | : 26 | : 81 | : 31 | |
| 11:30-12:00 | : 291 | : 79 | : 37 | :: | 5:30-6:00 | : 9 | : 82 | : 38 | |

(c) Result of work done at Havre, Montana, 1924:

An average day showing the influence of weather factors on grasshopper feeding:

| Hour | : Aver. | : Aver. | : Aver. | : Aver. | :: | Hour | : Aver. | : Aver. | : Aver. | : Aver. |
|-------|---------------|---------|----------|----------|----|------|---------------|---------|----------|---------|
| | : No.feeding: | temp. | : humid: | bar. P.: | | | : No.feeding: | temp. | : humid: | bar. P. |
| 6-7 | : 19 | : 56.6 | : 69.0 | : 27.35 | :: | 12-1 | : 26 | : 72.3 | : 42.7 | : 27.21 |
| 7-8 | : 75 | : 60.5 | : 64.1 | : 27.25 | :: | 1-2 | : 23 | : 72.8 | : 41.3 | : 27.19 |
| 8-9 | : 123 | : 64.5 | : 57.0 | : 27.24 | :: | 2-3 | : 28 | : 74.5 | : 41.0 | : 27.17 |
| 9-10 | : 67 | : 63.1 | : 51.1 | : 27.25 | :: | 3-4 | : 17 | : 75.4 | : 39.1 | : 27.18 |
| 10-11 | : 104 | : 69.9 | : 49.6 | : 27.22 | :: | 4-5 | : 24 | : 75.8 | : 36.5 | : 27.19 |
| 11-12 | : 31 | : 72.1 | : 46.7 | : 27.21 | :: | 5-6 | : 15 | : 74.9 | : 41.8 | : 27.19 |

(d) Result of work done at Cut Bank, Montana, 1924:

An average day showing the influence of weather factors on grasshopper feeding. The average temperature here differs from the temperatures previously given in that it was taken at crop height, at two feet above ground.

| Hour | : Average | : Aver. | : Aver. | : Aver. | :: | Hour | : Average | : Aver. | : Aver. | : Aver. |
|-------|--------------|---------|----------|----------|----|------|--------------|---------|----------|---------|
| | :No.feeding: | temp. | : humid: | bar. P.: | | | :No.feeding: | temp. | : humid: | bar. P. |
| 6-7 | : 3 | : 47.3 | : 92.3 | : 26.18 | :: | 12-1 | : 85 | : 72.7 | : 45.9 | : 26.18 |
| 7-8 | : 51 | : 55.8 | : 80.4 | : 26.34 | :: | 1-2 | : 50 | : 73.6 | : 45.4 | : 26.15 |
| 8-9 | : 130 | : 60.9 | : 71.5 | : 26.33 | :: | 2-3 | : 73 | : 73.0 | : 47.6 | : 26.34 |
| 9-10 | : 163 | : 67.0 | : 62.1 | : 26.27 | :: | 3-4 | : 106 | : 73.0 | : 51.0 | : 26.34 |
| 10-11 | : 177 | : 69.6 | : 51.5 | : 26.21 | :: | 4-5 | : 77 | : 70.5 | : 46.1 | : 26.21 |
| 11-12 | : 98 | : 71.9 | : 44.9 | : 26.19 | :: | 5-6 | : 63 | : 70.6 | : 39.6 | : 26.17 |

Note: A clear sky with little or no wind seems to form the ideal condition for grasshopper feeding so far as these two factors are concerned. The hoppers will quit feeding during a stiff wind or cloudy weather unless forced by hunger to eat.

WHITE GRUBS (Phyllophaga spp.)

- Mississippi W. M. Mingee (March 25): I observed May beetles for the first time this spring in abundance, this P. M. Most of which were Phyllophaga micans.
- Missouri L. Haseman (March 18): We are certain to have considerable trouble from these insects this year. They are widely distributed over the State.
- Nebraska M. H. Swenk (October, November, and December, 1924): Complaints of injury by white grubs continued to be received in diminishing numbers during September and up to the middle of October, when they abruptly ceased.

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

- Illinois W. P. Flint (March 11): Hessian fly puparia in volunteer wheat in the vicinity of Urbana, according to T. H. Parks, show nearly 90 per cent parasitism.
- Missouri L. Haseman (March 18): The fly was present in alarming numbers last November in our experimental plats at Springfield (southwestern Missouri), and Maryville (northwestern Missouri), but nowhere else. The rains of last fall helped to retard early seeding but we are likely to have some damage in the above two sections of the State.
- Nebraska M. H. Swenk (October, November, and December, 1924): The date of safe sowing for the Hessian fly was announced for the last Nebraska county on October 6. Many farmers awaited the announced date of safe sowing, and the dry fall held back the germination of the wheat in the earlier sown fields to such an extent that more of the Hessian fly infestation is in the volunteer wheat. In a field in Platte County, examined during the first week in October, volunteer wheat plants were found infested with an average of 5.8 larvae to the plant. (January and February, 1925): So far as this office has been able to learn, the campaign conducted last fall to control the Hessian fly by delaying the sowing of the winter wheat until a safe date was eminently successful. Very good publicity of the operations of the field observation stations, and of the dates of safe sowing as deduced therefrom, was obtained. Up to date only one report has been received of noticeable infestation in wheat fields seeded on or after the announced date of safe sowing. This report comes from eastern Cass County and concerns a light infestation in a neighborhood where local conditions apparently slowed the disappearance of the fall brood of the Hessian fly a few days beyond the average. The prospects are that the fall Hessian fly campaigns of 1923 and 1924 have reduced the Hessian fly from a highly destructive abundance to a normal non-menacing condition.

Montana

J. R. Parker (March 24): This insect is present in Wibaux, Richland, Dawson, and Roosevelt Counties. Very little field work has been done in regard to ascertaining the intensity of the infestation but according to the County Agents the number of stems infested with "flaxseeds" in some fields runs as high as 30 per cent. Personally I have only been in a few fields and these had already been harvested. However, the number of dwarfed stems and the large number of "flaxseeds" in each of these dwarfed stems lead me to believe that the infestation had been very heavy. Unless weather conditions interfere, I expect we will have serious trouble with the Hessian fly in Montana this year.

GENERAL

(U. S. Laboratory, Carlisle, Pa.) Field survey of the fall generation of the Hessian fly, 1924, eastern wheat growing region:

| Locality | No. Fields Examined | Average Infestation: 1924 | Increase: in 1924 over 1923 | Decrease: in 1924 over 1923 |
|--|---------------------|---------------------------|-----------------------------|-----------------------------|
| | | Per cent | Per cent | Per cent |
| <u>SUSQUEHANNA VALLEY AREA:</u> | | | | |
| Montoursville | 12 | 0.00 | | 21.46 |
| Danville | 12 | 0.00 | | 11.65 |
| Bloomsburg | 9 | 6.33 | | 6.36 |
| Lewisburg | 16 | 1.22 | | 16.60 |
| Middleburg | 12 | 1.96 | | 7.85 |
| <u>CARLISLE AREA:</u> | | | | |
| Andersonburg | 9 | 0.00 | | .66 |
| Carlisle | 5 | 21.27 | 20.50 | |
| Mt. Holly Springs | 5 | 6.12 | 4.08 | |
| Boiling Springs | 7 | 2.18 | | 7.32 |
| <u>SOUTHEASTERN PENNSYLVANIA AREA:</u> | | | | |
| Macungie | 12 | 0.00 | 0.00 | 0.00 |
| Nazareth | 13 | 0.00 | | 1.28 |
| Perkasie | 11 | 0.00 | 0.00 | 0.00 |
| Lansdale | 12 | 0.00 | | 4.32 |
| West Chester | 10 | 0.00 | | 4.46 |
| Terre Hill | 14 | 0.00 | 0.00 | 0.00 |
| Palmyra | 9 | 15.23 | 6.76 | |
| <u>DELAWARE AND EASTERN SHORE MARYLAND AREA:</u> | | | | |
| Cambridge | 10 | 0.00 | 0.00 | 0.00 |
| Princess Anne | 12 | 0.00 | 0.00 | 0.00 |
| Dover | 10 | 0.00 | 0.00 | 0.00 |
| Elkton | 9 | .47 | .47 | |
| <u>SOUTHERN PENNSYLVANIA AND NORTHERN MARYLAND AREA:</u> | | | | |
| Red Lion | 7 | 2.08 | 2.08 | |
| Fairfield | 6 | 3.00 | | 36.21 |
| Hagerstown | 5 | 11.00 | 6.83 | |
| New Windsor | 8 | 16.13 | 16.13 | |
| <u>SHENANDOAH VALLEY AREA:</u> | | | | |
| Martinsburg | 10 | .50 | .29 | |
| Winchester | 9 | 1.00 | 1.00 | |
| Woodstock | 16 | .38 | | 1.42 |
| Harrisonburg | 11 | 0.00 | | .67 |
| Berryville | 12 | 2.46 | 1.91 | |
| Charlestown | 11 | 0.00 | | 3.90 |
| Average for entire area | | 3.04 | | 2.14 |

CHINCH BUG (Blissus leucopterus Say)

- Missouri L. Haseman (March 18): In Missouri this pest is not threatening, though we may have some local trouble in the southwestern part of the State and perhaps up along the western border next to Kansas.
- Nebraska M. H. Swenk (October, November, and December, 1924): An examination of the chinch bug situation in Thayer County during the third week in November showed the bugs located for wintering in abundance in grass, stubble fields and to some extent in straw piles and cornstalks. The dry fall seems to have been quite favorable for the bugs.
- Kansas J. W. McColloch (March 13): The chinch bug situation is a little more encouraging than at this time last year. There were not quite as many bugs in hibernation as a year ago, and extreme cold weather resulted in a mortality of approximately 25 per cent of the hibernating bugs. During the warm weather of March 5 to 7 the bugs began to emerge from hibernation and to fly to the small grain fields.

GREEN BUG (Toxoptera graminum Rond.)

- Nebraska M. H. Swenk (October, November, and December, 1924): During the first week in November a local outbreak of the spring aphid or "green bug" occurred in a few fields in Phelps County. The aphids started working in spots in the fields, destroying the young wheat, and by the time they were checked by the arrival of cold weather they had destroyed a considerable amount of wheat in some of these fields.
- Mississippi R. W. Harned (March 25): On March 6 H. H. Wedgworth sent in oat plants infested with the spring grain aphid, Toxoptera graminum, from the Branch Experiment Station at Raymond.
- GENERAL G. A. Dean (March 17): I have now received reports on the green bug situation from practically every district, with the exception of northeastern Oklahoma and the extreme western part. We are unable to find any live green bugs in Kansas. Mr. Kelly has just returned from southeastern Kansas, and in the spots where there was some injury done last fall there are no signs of live bugs. Mr. Horton was unable to find any live Toxoptera in southwestern Missouri, or any place where they had done considerable injury last fall. This place gave us more anxiety than any other place, owing to the fact that there was considerable snow on the ground at the time of the low drop in temperature. Mr. Ainslie has been unable to find any live bugs in Tennessee. No live ones have been found in either Illinois or Indiana. Mr. Gable and Mr. Baker have now scouted the entire northern part of Texas, and there is nothing there.

It certainly looks as though we had no reason to believe there is any danger of a green bug outbreak this spring. Personally, I think it one of the most remarkable clean-ups, due to low temperatures, that we have ever experienced in our green bug studies.

Mr. Horton wrote me the other day that some one in Oklahoma had reported green bugs in southern Oklahoma. However, we have been unable to get any confirmation, and I doubt very much whether there is any truth in the report.

APHIDS (Aphididae)

Michigan

Eugenia McDaniel (December 5, 1924): On the 20th of November our Mr. Harman, Extension Specialist in insect control, reported a field at Portland as infested with plant lice. These were brought in and sent to Dr. Patch at Orono, Maine, for identification, since in Michigan aphid infestation of grain fields is rather unusual at this season of the year. Dr. Patch reports Macrosiphum granarium and Rhopalosiphum prunifoliae. There really seems to be very little permanent damage done, although the field showed plainly the result of the attack. During the present autumn several other reports of similar attacks have been sent in, although in these cases it has not been possible to collect and identify the material.

Nebraska

M. H. Swenk (October, November, and December, 1924): During the third week in October the English grain aphid appeared abundantly in some wheat fields in Adams County, in company with large numbers of the aphid Geocica squamosa, and the two together caused a considerable amount of slight, scattering injury in the wheat fields of parts of that county before cold weather checked their increase. As late as the third week in November the English grain aphid was reported as abundant on volunteer barley in Dundy County. Another aphid attacking the roots of wheat was the apple-grain aphid. That, in company with Geocica squamosa, was found abundantly in volunteer wheat in Platte County during the second week in October.

ARMY CUTWORM (Chorizagrotis auxiliaris Grote)

Kansas

J. W. McColloch (March 13): With regard to insect conditions in the State at this time, I might say that the army cutworm has become very abundant in the south-central part of the State. We now have reports of injury to wheat in the following Counties: Harper, Kingman, Reno, Barber, Clark, Kiowa and Russell. This cutworm is also reported to be injuring alfalfa in Harper County, and to be cutting off onion tops in Reno County. I understand that this outbreak also extends through a considerable portion of Oklahoma.

Oklahoma

C. E. Sanborn (February and March): Outbreak similar to that of 1921. Reported in Harper, Woods, Ellis, Woodward, Dewey, Blaine, Custer and Roger Mills Counties. Twenty per cent of crop damaged, as much as 75 per cent in individual fields. Specimens also from Texas and New Mexico.

Nebraska and
Colorado

M. H. Swenk (March 26): There is developing an outbreak of the army cutworm, Euxoa auxiliaris, in western Nebraska and north-eastern Colorado. The affected area in Nebraska, according to reports to date, includes southeastern Scottsbluff County, eastern Banner County, southern Morrill County, and south into Kimball County. The worms were first reported from Kimball County on February 8 and from northeastern Banner County on February 23. They began to be abundantly active during the second week in March, and at the present time are present in large numbers in some of the fields, assuming their characteristic armyworm habits. I cannot at this time predict how much injury they will do.

Apparently this outbreak extends south at least to Akron, Colo., for the Superintendent of the Field Station of the Bureau of Plant Industry at that place advises me that these cutworms "are to be found in myriads, in all sizes from very small to large, migrating over the surface of the ground, and even found in the house."

From past experiences this abundance of army cutworms will increase during April and the worms will not be over entirely until May 10 to 15. Then there will be a heavy flight of the adult moths during the last week in May and the early part of June, when the moths will occur by the millions around the farm buildings.

Wyoming

R. A. Cooley (March 27): Letter from C. L. Corkins, State Entomologist, Laramie, Wyo., dated March 24, stating that the first insect damage reported is by the western army cutworm which reached him that date.

THE WHEAT-STEM SAWFLY (Cephus pygmaeus L.)
and THE BLACK CEPHID (Trachelus tabidus Fab.)

GENERAL

C. C. Hill (U. S. Entomological Laboratory, Carlisle, Pa.) (March 28): The accompanying tables show the present abundance in certain localities in the East of the two common saw-flies, Trachelus tabidus Fab., and Cephus pygmaeus Linn., which infest wheat in the Eastern United States. The collections of the material upon which the data are based was largely made by H. D. Smith. Both pests are of interest at this time.

Cephus pygmaeus attracts attention because of its occurrence during the last few years in alarming abundance in certain localities in the State of New York (the report of its infestation in that state is left to the New York State Entomologists). This outbreak has been felt as far south as the region of the Susquehanna Valley in Pennsylvania, and in the vicinity of Montoursville it has been sufficiently abundant to attract the attention of farmers. The records for 1924, however, show some decrease over the infestation found in 1923 in this locality.

Trachelus tabidus is of interest because of its comparatively recent introduction into this country from Europe and the possibilities of it becoming a serious pest.

Both pests overlap somewhat in distribution, although at the present time Cephus pygmaeus has its strongest hold in territory north of regions not yet penetrated by Trachelus tabidus. We believe, moreover, that the many negative records included in the report will furnish important data on the dissemination of both species.

The computation of the average percentage of infestation has been limited to the localities in the eastern half of the State of Pennsylvania for the reason that many of the points outside this region lie beyond the present geographical distribution of the species.

INFESTATION OF CEPHUS PYGMAEUS IN CERTAIN LOCALITIES IN THE EASTERN WHEAT GROWING REGION.

| <u>No.</u> | <u>Locality</u> | <u>No. tillers</u> <u>Examined</u> | <u>Percentage of</u> <u>Infestation</u> |
|---------------------------------|--------------------------|---------------------------------------|--|
| 1. | Cambridge, Md. | 296 | 0.00 |
| 2. | New Windsor, Md. | 100 | 0.00 |
| 3. | Greensboro, N. C. | 481 | 0.00 |
| 4. | Bloomsburg, Pa. | 100 | 2.00 |
| 5. | Boiling Springs, Pa. | 100 | 0.00 |
| 6. | Danville, Pa. | 200 | 0.55 |
| 7. | Fairfield, Pa. | 250 | 0.00 |
| 8. | Lewisburg, Pa. | 100 | 1.00 |
| 9. | Montoursville, Pa. | 216 | 16.67 |
| 10. | Mount Holly Springs, Pa. | 651 | 0.00 |
| 11. | Palmyra, Pa. | 100 | 6.00 |
| 12. | Pine Grove Furnace, Pa. | 442 | 0.00 |
| 13. | Reading, Pa. | 1021 | 1.76 |
| 14. | Red Lion, Pa. | 242 | 1.65 |
| 15. | Sunbury, Pa. | 835 | 0.00 |
| 16. | Washington County, Pa. | 1034 | 0.00 |
| 17. | Berryville, Va. | 357 | 0.00 |
| 18. | Harrisonburg, Va. | 224 | 0.00 |
| 19. | Warrenton, Va. | 366 | 0.00 |
| 20. | Winchester, Va. | 200 | 0.00 |
| 21. | Woodstock, Va. | 302 | 0.00 |
| 22. | Charlestown, W. Va. | 170 | 0.00 |
| 23. | Martinsburg, W. Va. | 153 | 0.00 |
| Average of localities in Penna. | | | 2.28 |

INFESTATION OF TRACHELUS TABIDUS IN CERTAIN LOCALITIES IN THE EASTERN WHEAT GROWING REGION.

| <u>No.</u> | <u>Locality</u> | <u>No. tillers</u> <u>Examined</u> | <u>Percentage of</u> <u>Infestation</u> |
|------------|-------------------|---------------------------------------|--|
| 1. | Cambridge, Md. | 296 | 0.00 |
| 2. | New Windsor, Md. | 100 | 2.00 |
| 3. | Greensboro, N. C. | 481 | 0.00 |
| 4. | Bloomsburg, Pa. | 216 | 0.00 |

| <u>No.</u> | <u>Locality</u> | <u>No. tillers</u> <u>Examined</u> | <u>Percentage of</u> <u>Infestation</u> |
|---------------------------------|--------------------------|---------------------------------------|--|
| 5. | Boiling Springs, Pa. | 100 | 1.00 |
| 6. | Danville, Pa. | 200 | 2.00 |
| 7. | Fairfield, Pa. | 250 | 0.00 |
| 8. | Lewisburg, Pa. | 100 | 0.00 |
| 9. | Montoursville, Pa. | 216 | 0.00 |
| 10. | Mount Holly Springs, Pa. | 651 | 0.77 |
| 11. | Pine Grove Furnace, Pa. | 442 | 0.00 |
| 12. | Reading, Pa. | 1021 | 1.76 |
| 13. | Red Lion, Pa. | 242 | 6.61 |
| 14. | Sunbury, Pa. | 835 | 0.00 |
| 15. | Washington County, Pa. | 1034 | 0.00 |
| 16. | Berryville, Va. | 357 | 0.55 |
| 17. | Harrisonburg, Va. | 224 | 0.00 |
| 18. | Warrenton, Va. | 366 | 0.55 |
| 19. | Winchester, Va. | 200 | 0.00 |
| 20. | Woodstock, Va. | 302 | 0.64 |
| 21. | Charlestown, W. Va. | 170 | 0.00 |
| 22. | Martinsburg, W. Va. | 153 | 0.33 |
| Average of localities in Penna. | | | 1.01 |

CORN

EUROPEAN CORN BORER (Pyrausta nubilalis Huebn.)

Ohio H. A. Gossard (March 21): Buried specimens of the European corn borer exhibited activity as early as March 10. On this day, which was very warm, they started toward the surface and some of them completed half of the journey upward, though, so far as known, none actually reached the surface.

ARMYWORM (Cirphis unipuncta Haw.)

Missouri L. Haseman (March 18): It is still too early to make definite predictions, though from the past fall's signs we do not expect this pest this spring.

CORN ROOTWORM (Diabrotica duodecimpunctata Fab.)

South Carolina Philip Luginbill (March 10): Adults of Diabrotica 12-punctata are very abundant this spring. This would seem to indicate that there may be serious damage to corn this spring. Last year the adults were scarce not only during the spring but the whole year. In fact, we were unable to get a sufficient number for breeding work. Yesterday, in a very short time, we captured 100 beetles. Egg laying has already begun. In fact, many beetles have already deposited their quota and have died. Several of the individuals of each capture are parasitized and it is hoped that a sufficient number of the adults may be obtained for a life history study of this parasite, which apparently is Celatoria.

Missouri

L. Haseman (March 18): We have had an unusual heavy run on complaints about the rootworms this winter in which they refer to last summer's damage. We are expecting trouble over the corn belt of the State again this summer.

ALFALFA

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Idaho

University of Idaho News Letter, Moscow, Vol. XII, No. 2 (February 24): In a few localities in Idaho the belief seems to prevail that the alfalfa weevil has suddenly died out and that no further injury will be done by it. This belief has been occasioned by the fact that in 1924 the amount of damage caused by this pest was much less than in 1923, and it has been formed without a knowledge of the contributing factors of the weevil itself. During the past two years the experiment station entomologist has kept a close check on the development of the alfalfa weevil in southwest Idaho, and the station is in a position to draw a comparison between the two years mentioned. By daily observations and careful counts data were obtained each year which are assembled in the form of a table of comparisons as follows:

| Comparison of 1923 and 1924 | | | |
|---------------------------------------|---------|--------|-------------|
| | : | : | :Difference |
| | : 1923 | : 1924 | : (Days) |
| First worms found. | May 7 | May 1 | 6 |
| Date when injury began to be severe : | : | : | : |
| and generally noticeable. | May 23 | May 17 | 6 |
| Date when greatest number of worms : | : | : | : |
| occurred in the field. | June 22 | May 25 | 28 |
| Greatest number of worms collected : | : | : | : |
| in 100 strokes of the insect net. : | 5010 | 7564 | : |
| Period during which numbers of worms: | : | : | : |
| and amount of injury increased. . : | 46 days | 24 das | 22 |
| Time after first spray application : | : | : | : |
| until greatest number of worms : | : | : | : |
| was reached. | 30 days | 5 days | 25 |

Climatic conditions for the two years were quite different. A late spring and a cold, wet May and June characterized 1923, while the hot, dry spring and early summer of 1924 are still fresh in the memory of most who were engaged in farming. From the time that worms become numerous enough to cause injury until they have reached their greatest numbers and stopped feeding is the critical period in relation to the amount of damage done. Studying the above table disclosed the fact that the greatest number of worms in 1924 occurred 28 days earlier than in 1923, and that injurious numbers fed on the first crop for 22 days less than in 1923. Instead of fewer weevil than in 1923, there were actually more in the field at one time in 1924, but they attacked the plants at a different stage of growth and fed for a shorter period of time.

In 1923, 30 days elapsed after the first spray was applied until the numbers of worms began to drop off naturally, but a corresponding period of time in 1924 was but 5 days. A spray is effective for approximately 10 days after application when plants are growing normally. This explains why, in southwestern Idaho, a second application was necessary in 1923, but was of little extra benefit in 1924.

In 1923 eggs hatched during the months of May and June, and were present in the field even after the first crop had been cut. In 1924 eggs had practically all hatched by the 25th of May. June, 1923, was so wet and cold that alfalfa grew slowly and weevil larvae also matured slowly. A condition existed, therefore, such that a fewer number of worms, by feeding over a longer period of time, caused more injury than a larger number feeding for a comparatively short time. In 1924 weevil injury was nearly all done by May 25; worms began to cease feeding, and many fields made a certain amount of recovery naturally. The lack of moisture and irrigation water and the intense heat of early May had the effect of hastening the development and feeding of the weevil, of reducing its feeding period and of retarding the growth of the alfalfa. Most of the growth of the alfalfa was made then after feeding abated and after irrigation water was applied more generously, so that plants virtually took a new start.

The years 1921, 1922, and 1923 were quite similar in regard to development of alfalfa weevil and injury caused by it, so they may be taken to represent more nearly a normal condition than 1924. It is safe to assume that conditions in 1925 will more nearly approximate those of the three years first named than those of 1924 and that we may reasonably expect injury from the alfalfa weevil again this season. The entomologist has made examinations in the field since last summer and has found an abundance of live beetles surviving. There are those who believe that the parasitic enemies of the weevil have them under control. Others maintain that the extreme drouth and heat of last summer killed them. The weevil parasite common in Idaho kills the worms before they can transform to beetles, so that either of these suppositions is untenable in the face of evidence that there were an abundance of beetles that entered the winter alive after they were supposed to have been killed by parasites or weather.

The only safe conclusion is that the weevil will be a limiting factor in the production of alfalfa hay in 1925 if weather conditions are favorable for the pest. The only assurance of raising a full crop of hay is to be prepared to control the pest if necessity arises. If one is not already prepared to combat the weevil and plans to fight it this season he must arrange for the early purchase of machinery and supplies, for they cannot often be procured at the time needed. The saving on one crop will pay for labor, equipment and supplies for several years. If control should prove not to be necessary, equipment and supplies do not deteriorate, and can be considered in the form of crop insurance that may not be drawn upon until another season.

Conditions mentioned above are for southwestern Idaho. It is recognized that conditions in the south-central or eastern parts of the State are different.

Claude Wakeland (March 18): Last season the alfalfa weevil went into pupation 28 days earlier than during 1923. A condition was thus created such that recovery of the first crop of alfalfa came about to a considerable extent without control, a condition that has not been previously recorded, I believe. Injury from the weevil was unusually light last season. Many farmers are of the belief that the insect has ceased to be a pest of alfalfa but we have found that the spring conditions are the determining influence, so that there is opportunity for very severe damage again this season. Last season was very hot and dry in late April and in May. The previous year was unusually cool and wet during May and June.

CLOVER-SEED CHALCID (Bruchophagus funebris Howard)

Utah

U. S. D. A. Bureau of Agricultural Economics (January 13): "While many growers were not free sellers, a majority of them were. Seeds were active bidders largely because of reports that the crop in Utah did not turn out so well as expected. Shrinkage in that State was heavy because of damage from chalcid fly in the Uinta Basin and frost damage in Millard County."

F R U I T I N S E C T S

APPLE

APPLE APHID (Aphis pomi DeG.)

Illinois

S. C. Chandler (March 16): Practically all of the apple buds in the Ozark region of southern Illinois in delayed dormant stage. A few aphids observed on the opening buds.

Michigan

L. G. Gentner (March 27): On the 26th of March, while examining twigs of apple, I found that the eggs of the bud-lice were already hatching in considerable numbers. As the buds have not even started to swell, the young lice were forced to feed right through the bark. They seemed to prefer to feed in the vicinity of buds although the punctures were made through the bark itself rather than elsewhere.

Indiana

B. A. Porter (March 31): On account of the abnormally early season, the aphids have been hatching unusually early. The first newly hatched aphid was noted on March 9th. Thus far the rosy aphis has been very scarce, the predominant species being the apple-grain aphis. In general, the apple aphids are not more than moderately abundant, although as usual the infestation is irregular and here and there they are present in threatening numbers.

Missouri

L. Haseman (March 18): Overwintering eggs of the aphis are very abundant on apple, and we are expecting trouble with the different species.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

Virginia

W. M. Davidson (February 26): A heavy infestation of sexual forms occurred on apple trees at Vienna in the fall of 1924 and many eggs were deposited on twigs and branches. Unless there is a pronounced winter-kill extensive infestations may be looked for this spring and early summer.

Herbert Spencer (March 13): An infestation by this insect on buds of apple trees was brought to our attention. These aphids seem somewhat more numerous than usual this spring. I have examined a number of twigs and find that most of the aphids are in the first or second instar.

Maryland

E. N. Cory (March 7): This insect was reported attacking apple at College Park, and eggs were also hatching on this date.

Ohio

H. A. Gossard (March 21): Eggs of the apple grain aphid were observed hatching at Wooster on March 10, and at Lasbon on March 12. Aphis eggs, presumably, chiefly of the species just mentioned, are more abundant this spring than usual at Wooster.

ROSY APPLE APHID (Anuraphis roseus Baker)

Virginia

W. J. Schoene (March 16): The first individuals of this species were noted on buds at Blacksburg on March 14.

CODLING MOTH (Carpocapsa pomonella L.)

Missouri

L. Haseman (March 18): Late fall pin worms were unusually numerous last fall, but careful orchard spraying has always given good commercial control here.

FRUIT-TREE LEAF-ROLLER (Cacoecia argyrospila Walk.)

Illinois

W. P. Flint (March 11): Egg masses of this insect, which are abundant in western Illinois, have given almost 100 per cent hatch where kept in the greenhouse.

Idaho

Claude Wakeland (March 18): There has been a decided weather effect on the eggs of the fruit-tree leaf-roller. The severe temperature of last winter is without precedent in this State since fruit raising has become an industry, so we have no past records with which to make comparison. It is certain that the injury from many kinds of insect pests last winter above ground will be comparatively light this season.

TENT CATERPILIAR (Malacosoma americana Fab.)

Massachusetts

A. I. Bourne (March 25): From such observations as I have been able to make thus far in the immediate vicinity, and from reports from the Eastern part of the State, there is little indication of any let-up in the intensity of the prevalence of the apple tent caterpillar, as judged by the egg masses. If anything, here in this immediate section around the college, it promises to be slightly more abundant than last year.

- Connecticut W. E. Britton (March 24): Throughout the locality of New Haven, Greenwich and Stamford, egg clusters are common, but especially so in Fairfield County.
- Illinois W. P. Flint (March 11): Egg masses of this insect are very abundant in the southern Illinois orchard section. A number of egg masses have been carried through in the greenhouse, and hatched nearly 100 per cent. No parasites were obtained.
- Georgia Oliver I. Snapp and assistants (March 26): Unusually abundant. Some wild cherry trees completely defoliated at Fort Valley, also observed on persimmon.

FALL CANKERWORM (Alsophila pometaria Harris)

- Connecticut W. E. Britton (March 24): At New Haven eggs are very abundant below sticky bands on banded trees on station grounds. Some defoliation last year in New Haven, Greenwich and Stamford.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

- Nebraska M. H. Swenk (October, November, and December, 1924): The apple maggot has, as yet, been found doing injury in Nebraska only very infrequently. In December specimens of winter apples showing the characteristic work of this pest were examined, the apples having been grown in Burt County.

FRUIT TREE SERICA (Serica sp.)

- Texas F. L. Thomas (March 26): Specimens received from Karnes City, and requests for information regarding possible injury.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

- Ohio H. A. Gossard (March 21): The winter mortality of the San Jose scale seems to have been unusually high in Ohio this season. Counts made in March indicate that in some instances only about 20 per cent of the scales have survived the winter. However, in an orchard in the central part of the State, about 40 per cent survived.
- Indiana B. A. Porter (March 31): While much reduced in numbers from previous seasons, the scale is present in sufficient numbers to be still an important problem. The abnormally long period of hot weather in early fall allowed the light infestation which had escaped the previous dormant treatment to make a tremendous increase in numbers. Winter mortality has been the highest that it has been for several years. A few counts are as follows:

| Date | Orchard and condition | Live | Dead | Total | % dead |
|---------|---|------|------|-------|--------|
| Mar. 12 | Young apple, incrustated. | 303 | 726 | 1029 | 70.6 |
| 13 | Young apple, heavily incrustated. | 196 | 849 | 1045 | 81.2 |
| 23 | Old apple, heavy incrustation . | 182 | 826 | 1008 | 81.9 |
| Mar. 11 | Young apple, recent infestation | 1163 | 1837 | 3000 | 61.4 |
| Jan. 27 | Old peach, long-standing infestation. | 636 | 1442 | 2078 | 69.4 |
| Mar. 2 | Same as above. | 422 | 1608 | 2030 | 79.2 |

In the last orchard mentioned, the mortality in the spring of 1923 was 28 per cent and in 1924 was 57.3 per cent.

Illinois

W. P. Flint (March 11): Several periods of low temperature have occurred in Illinois during the past winter, with temperatures of -22° to -24° F. at points north of Urbana, and correspondingly low temperatures in the southern part of the State. Peach buds were killed in all but the southern counties. These temperatures have caused a high winter mortality of the San Jose scale, about 5 per cent being found alive in the vicinity of Urbana, and 20 to 25 per cent in orchards in the vicinity of Anna.

Missouri

L. Haseman (March 18): Dormant sprays have again put the pest under control, though neglected orchards are badly infested in some sections. The scale situation, however, is very satisfactory in Missouri.

Idaho

Claude Wakeland (March 18): Examined 22,000 scales under the microscope during the past three weeks, coming from widely separated districts of southwestern and southern Idaho, and of this number but 519 were alive. Of the 519 live insects, 399 of them were obtained in an examination of 500 scales on a water sprout below where the snow line had been; so a representative count of San Jose scale under orchard conditions is 120 live insects out of 21,500 examined. The temperature ranged from -24° to -35° on the coldest day of the winter, but there were two other days on which the thermometer registered within two degrees of the low point. All of the live scales have been found in localities where the minimum temperature registered about 24° to 26° F.

SNOWY TREE CRICKET (*Oecanthus niveus* DeG.)

Idaho

Claude Wakeland (March 18): Eggs of the snowy tree cricket have been killed extensively by cold weather but the percentage of mortality has not yet been determined.

EUROPEAN RED MITE (*Paratetranychus pilosus* C. & F.)

Massachusetts

A. I. Bourne (March 25): Owing to the fact that many of the growers gave particular attention to this pest last spring and used the oils as a dormant spray, the pest seems to be slightly less prevalent than a year ago.

Ohio

H. A. Gossard (March 21): Great numbers of the eggs of the European red spider mite were found on the trunks of apple trees in northeastern Ohio.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Missouri L. Haseman (March 18): Very few complaints of this pest have been received. The paradichlorobenzene remedy is being widely used in Missouri.

ORIENTAL PEACH MOTH (Laspeyresia molesta Busck)

Georgia Oliver I. Snapp (March 21): At Fort Valley this insect is very scarce in orchards that were moderately heavily infested last summer. We are wondering if the lack of food late in the season in this latitude did not starve out many larvae of the last 1924 generation. The first 1925 spring pupation took place on February 25, and the first adult emerged on March 8.

PEACH TWIG MOTH (Anarsia lineatella Zell.)

California T. D. Urbahns (March 20): The first larvae of the peach twig-moth were observed active for this season at Atwater. They were just beginning to attack the unfolding leaf buds of peach.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

North Carolina R. W. Leiby (March 20): First beetles jarred from peach trees March 18 at Aberdeen. This is 19 days earlier than last year, 8 days earlier than in 1923, and 9 days earlier than in 1922. Indications are that winter survival is heavy.

Georgia Oliver I. Snapp (March 21): The first adult of the season appeared at Fort Valley from hibernation in hibernation experiments on March 4. The peak of appearance of the beetles from hibernation in the Georgia Peach Belt evidently took place on March 19. The maximum temperature for five days during the preceding week was over 85 degrees. The plum curculio is appearing from hibernation earlier than usual this year on account of the earlier season.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Georgia Oliver I. Snapp (March 21): More abundant than usual at Fort Valley, feeding on peach flowers. In some cases the little peaches are devoured.

TARNISHED PLANT-BUG (Lygus pratensis L.)

Illinois W. P. Flint (March 9): Adults of this species noted in peach orchards at Anna, Ill., on this date. Temperature above 80° F.

PLUM

WEST INDIAN PEACH SCALE (Aulacaspis pentagona Targ.)

Alabama J. M. Robinson (March 10): From Spring Hill we have received a plum twig entirely covered with the West Indian peach scale. This insect has been considered along with the San Jose scale as one of the most serious pests of fruit trees in Alabama. However, we do not have definite information to confirm this at the present time.

RUSTY PLUM APHID (Hysteroneura setariae Thomas)

Georgia Oliver I. Snapp and assistants (March 26): As usual the rusty brown plum aphid is very abundant on plum trees at Fort Valley in home orchards. In some cases this aphid has prevented fruit to set.

Mississippi E. M. Mingee (March 24): I observed the brown plum aphid on the nation plum trees. Some trees were heavily infested but were being preyed on by the adults and larvae of lady-bugs.

CLOVER MITE (Bryobia praetiosa Koch)

California T. D. Urbahns (March 15): This mite was hatching in abundance from overwintering eggs on the trees and attacking the unfolding buds of prunes and almonds. Many of the eggs still remained unhatched on the trees at this date.

RASPBERRY

RASPBERRY-CANE BORER (Oberea bimaculata Oliv.)

Missouri L. Haseman (March 18): At Columbia this little borer has practically ruined some raspberry patches, and while the pest shows signs of very heavy parasitism we may expect trouble from it this summer. It has never caused trouble before in the State, to my knowledge.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Missouri L. Haseman (March 18): We had a bad season with them last year and they have always gone through the winter safely with us, so we are sure to have a heavy infestation this summer. Our grape growers are turning to grape spraying fast and are including sprays for the leafhoppers.

CUTWORMS (Noctuidae)

California T. D. Urbahns (March 14): Many complaints of cutworms destroying the unfolding buds of grapes have come from Bakersfield. Probably several species are involved.

PECAN

MAY BEETLES (Phyllophaga spp.)

Alabama J. M. Robinson (March 10): Mr. C. C. Lowder, Secretary and Manager of Title Insurance Company, Mobile, Ala., reports that in a small district in Mobile there is a species of beetle, perhaps one of the May beetles, which defoliates the pecan trees about the first of April, after the pecan trees have made a growth of from four to six inches. The beetles also work on the tender branches, as well as leaves, for about thirty days. They have been recorded as being present and destructive for about four years. They have been sufficiently abundant to prevent the fruiting of the pecan trees.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Alabama J. M. Robinson and W. A. Ruffin (March 2): This insect was defoliating pecan trees in the extreme southern part of our State. At Auburn these beetles are very plentiful at the present time, and are found on various fruit blossoms, as well as on vetch.

CITRUS

CITRUS APHID (Aphis spiraeicola Patch)

GENERAL
STATEMENT

W. W. Yothers and F. R. Cole (January 31): A recent partial survey over the most heavily infested citrus growing sections last year indicates that this pest is not present to the extent that it was last year. In fact, the growers interviewed indicated that perhaps not one-thousandth as many were present as there were last year. It is a fact, however, that a branch of new growth here and there was heavily infested; in most instances this was from tangerine trees or other varieties of the Mandarin family. Both sexes were found on *Spiraea* plants at Lakeland. These plants were most heavily infested and the aphids were practically destroying all the new growth. The usual predacious enemies were present in considerable abundance and in most instances had completely destroyed colonies.

Florida W. W. Yothers (March 23): A year ago there was a most terrible scourge and infestation of aphids south of here. This infestation hardly reached here last spring in time to cause any injury whatever. At the present time, however, this pest is here in maximum numbers and it is simply killing the new growth as rapidly

As it appears in most groves. Just now I would rather not predict the effect of this pest upon this coming crop, but it looks as if it would materially reduce it. The weather last year was much below normal, while this year it has been much above normal. Although there are more than a dozen predacious enemies at work upon this aphid, they seem to be absolutely powerless to stop its multiplication. It is a general consensus of opinion that the aphids are not as abundant as they were last year where the infestation was the greatest. In one grove I found that this insect had been completely wiped out by what I presume was a most virulent fungus.

BLACK CITRUS APHID (Toxoptera aurantiae Koch)

California

E. A. McGregor (March): Since the development of the new spring growth on the citrus trees in the Porterville region the black citrus plant louse has been much in evidence. The occurrence this season of this pest amounts practically to an outbreak. It is rather too early yet to estimate how severe the attack on citrus may amount to, but in the past it has occasionally been responsible for the complete destruction of the new growth of the season.

ORANGE THRIPS (Euthrips citri Moulton)

California

E. A. McGregor (March): Regarding minimum temperatures, the winter of 1924-25 was a rather mild one in the Porterville district, contrasting with the very cold winter of 1923-24. This will afford an opportunity of further studying the relation of winter conditions to thrips abundance the following season. The first larvae were seen on March 2 this year, which is four days later than the earliest record for 1924.

GRAY SCALE (Coccus pseudomagnoliarum Kw.)

California

E. A. McGregor (March): The unseasonably warm weather of the past ten days has greatly accelerated the growth of the maturing gray scales on citrus in the Porterville region. This points to an early hatch, and if this proves to be the case it will have a bearing on the spring control of the citrus thrips by advancing the date for thrips spraying.

FIG

THREE-LINED FIG BORER (Ptychodes trilineatus L.)

Mississippi

R. W. Harned (March 25): Mr. Troy Thompson, of the U. S. Bureau of Entomology, has found fig trees at Bay St. Louis practically killed by borers that have been tentatively determined as this species.

TRUCK - CROP INSECTS

GENERAL FEEDERS

CUTWORMS (Noctuidae)

- Florida F. S. Chamberlin (March 23): Various species of cutworms are unusually numerous this spring at Quincy, owing apparently to the open winter.
- Texas F. L. Thomas (February and March): Has utterly destroyed gardens at Harleton, and last season, while not as bad as this season, it destroyed quite a lot of cotton, causing many to plant as high as three times.

MOLE CRICKET (? Gryllotalpa borealis Burm.)

- Alabama J. M. Robinson (March 10): We have had several inquiries about the damage of a mole cricket to vegetables. This insect is quite abundant and does considerable damage in the southern tier of counties in this State.

APHIDIDAE

- Arizona News Letter Vol. 3 No. 2 (February 28): Plant lice or aphids have been observed during February doing some damage to cabbage, cauliflower and turnips. Some growers throughout the Salt River Valley have been applying nicotine dust while others have used the nicotine sulphate spray.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

- Louisiana W. E. Hinds (February 25): There is much complaint from the twelve-spotted cucumber beetle attacking winter-grown truck crops at Baton Rouge. These beetles have been active and apparently laying eggs throughout the winter, and at this time appear to be scattering from the truck gardens to other posts.

AN APHID (Macrosiphum taraxaci Kalt.)

- Nebraska M. H. Swenk (October to Dec. 1924): An infestation of dandelions with the aphid was reported from Phelps County during the first week in October.

TARNISHED PLANT-BUG (Lygus pratensis L.)

- Ohio H. A. Gossard (March 21): A specimen of a tarnished plant-bug was observed in flight at Bono on March 17.

POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

- Mississippi R. W. Harned (March 25): On March 18 H. H. Wedgworth collected a Colorado potato beetle feeding on cabbage at Hazlehurst, Copiah County.

Louisiana W. E. Hinds (February 25): At Baton Rouge the Colorado potato beetles are becoming injurious to early crops of Irish potatoes.

C. E. Smith (March 23): General emergence of beetles (Leptinotarsa 10-lineata Say), from hibernation seems to be almost completed, if not entirely. Mating very common and considerable number of egg clusters noted in Louisiana and a few larvae which ranged from very small to about one-half grown.

Idaho Claude Wakeland (March 18): The Colorado potato beetle was discovered at Parma last season and steps were taken by the Experiment Station to eradicate it. How successful this work was will not be known until we have opportunity to check up on it during the growing season. The chance of eradication is good, since it was found to be established in only one small field and scouting did not show it to be present in other fields in the same community.

SWEET POTATO

SWEET-POTATO WEEVIL (Cylas formicarius Fab.)

Alabama Monthly Letter Bureau of Entomology No. 130 (Feb. 1925): E. G. Caldwell has been appointed an inspector of the Alabama State Board of Horticulture to keep in touch with the sweet-potato weevil situation in the neighborhood of Foley, Baldwin Co., where severe infested sweet potatoes were recently found in a storage house.

TOMATO

WIREWORMS (Melanotus sp.)

Louisiana C. E. Smith (March 19): The larvae of this species were found making large ragged holes in the underground portion of the stem of young tomato plants at Baton Rouge. The ground on which this wireworm was collected was sod previous to 1924, when it was brought back into cultivation. A considerable number of tomato plants had been completely killed.

STRAWBERRY

PEACH-TWIG BORER (Anarsia lineatella Zell.)

Nebraska M. H. Swenk (October to December 1924): A bed of strawberry plants showing severe injury by the strawberry crown miner was examined in Lancaster County during the third week in October.

STRAWBERRY -CROWN BORER (Tyloderma fragariae Riley)

Missouri L. Haseman (March 18): This pest has about ruined some

plantings in southwestern Missouri. Our inspection of straw berries show it to be the most threatening pest of the crop at this time.

STRAWBERRY WEEVIL (*Anthonomus signatus* Say)

North
Carolina

W. A. Thomas (March 17): We are now at the beginning of what promises to be the heaviest strawberry weevil infestation this section (Chadbourn) has experienced in many years. The weevils were first observed in the fields here on March 13, more than one week earlier than our previous early record. The infestation is widespread here and is rapidly increasing in severity. Dusting for control is well under way.

WHITE GRUBS (*Phyllophaga* sp.)

South
Carolina

John B. Steele (March 2): White grubs are destroying strawberry plants and meadow grass, and are causing almost 100 per cent destruction in certain sections of South Carolina.

PEAS

PEA APHID (*Illinoia pisi* Kalt.)

California

R. E. Campbell (March 25): The pea aphids are getting very plentiful, averaging as high as 100 to a foot in several fields, and already all showing small damaged areas here and there. I expect a severe infestation, if conditions continue favorable. I inspected several fields of alfalfa in the Antelope Valley on the way up (March 20) and saw the worst infestation in my experience. Large areas in many fields were entirely killed, while the remainder was so severely infested that it would be killed in a few days. The aphids were so thick that many were stawling about on the ground. The alfalfa was just started, not over 6 inches high, but indications are that the first crop will be ruined in the infested section. The only natural enemy observed was the Syrphid, Eupeodes volucris, which was plentiful in the adult form.

BEANS

A SOWBUG (probably *Forcellio* sp.)

Mississippi

K. L. Cockerham (March 23): All during early March the common sowbug, probably Forcellio sp., has done considerable damage here at Biloxi. They have attacked various flowering yard plants, and in the truck garden have been injurious to mustard, radishes, and young beans. In some local cases the stand of beans has been affected. This pest seems to be more numerous this spring than usual.

TURNIPS

AUSTRALIAN TOMATO WEEVIL (*Desiantha nociva* Lea)

Mississippi

K. L. Cockerham (March 23): During the early part of March heavy infestations of the Australian tomato weevil have been located

at Picayune, Pearl River County, by J. A. MacLemore, and at Bay St. Louis and Waveland, Hancock County, by Messrs. F. A. Wright and Troy Thompson. Turnips was the crop being attacked and larvae were most plentiful.

M. M. High (March 23): There is a very heavy infestation of the Australian tomato weevil on turnips at Bay St. Louis.

W. M. Mingee (March 25): I observed on February 28, and March 6, considerable damage being done to turnip patches near Picayune, by the Australian tomato weevil.

R. W. Harned (March 25): The Australian tomato weevil has caused serious damage to turnips at several places in South Mississippi. On February 24, J. A. MacLemore, of the U. S. Bureau of Entomology, collected a large number of the larvae of this species from three properties in the southern part of Pearl River County. All were collected near the roots of turnips and one property was heavily infested. On March 6, Mr. MacLemore collected a large number of larvae and pupae from turnip patches on several other properties. On one property he collected all that he could find on three square feet of the turnip patch, and submitted the following figures:

| | |
|---|----------------|
| Size of turnip patch | 21 ft x 48 ft. |
| Area of turnip patch | 1008 sq. ft. |
| Area examined for <u>Desiantha nociva</u> | 3 sq. ft. |
| Number of larvae collected | 39 |
| Number of pupae collected | 28 |
| Total number of larvae and pupae collected | 67 |

CABBAGE

IMPORTED CABBAGE WORM (Fontia rapae L.)

Mississippi R. W. Harned (March 25): Mr. H. H. Wedgworth, Inspector for the State Plant Board, with headquarters at Raymond, reported the imported cabbage worm at work in several fields of cabbage around Crystal Springs on March 18.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

R. W. Harned (March 25): Mr. Wedgworth has observed the 12-spotted cucumber beetle in large numbers on cabbage plants during February and March in Warren, Hinds, and Copiah Counties. His first report in regard to the abundance of these insects on cabbage plants was dated February 10. In regard to the injury caused to cabbage by these beetles, he writes as follows: "This pest may feed on any part of the leaf, but seems to prefer the under side. However, I have watched them feed for some time on the upper surface, and sometimes holes are eaten through the leaves. I have examined about 20 cabbage fields or about 60 or 70 acres and found this pest present in every field. I believe I am safe in estimating the damage at 1 per cent of the crop. In one field, at Yokena, the damage ran up to about 5 per cent or better. The principle injuries are, first,

buds eaten out, heads will not form; second, attack on the young plants often means death to the plant, causing a poor stand."

HARLEQUIN CABBAGE BUG (Murgantia histrionica Hahn)

Mississippi R. W. Harned (March 25): Harlequin cabbage bugs have been reported from a number of places in the State. Usually they are found congregating on old cabbage plants or hibernating in protected places.

CELERY

CELERY LEAF-TYER (Phlyctaenia rubigalis Hbn.)

Florida W. H. White (March 3): The celery leaf-tyer has occurred early in larger numbers in celery fields in the Sanford, Fla., district than in previous years. This early activity of the insect is apparently due to weather conditions which have been favorable to the insect's rapid development. During the early part of February the infestation was limited to the mature and nearly mature celery. This fact would indicate that the early plantings of the previous fall became infested and the worms gradually decreased in numbers in the fields originally infested. An examination of a number of celery fields on February 10, 1925, showed all stages of the insect present, including larvae in various stages of development. The worms at this date were not sufficiently abundant to cause any noticeable damage. Judging from existing conditions, however, the indications are that unless control measures are undertaken the worms will become abundant enough in about a month or six weeks to cause considerable damage to celery.

CARROTS

CARROT RUST FLY (Psila rosae Fab.)

New York C. R. Crosby (January 18): Infested carrots received from Buffalo which are being attacked by this insect.

ONION

ONION THRIPS (Thrips tabaci L.)

Texas F. L. Thomas (March 21): Reported from Lovelady, Houston County.

S O U T H E R N F I E L D - C R O P I N S E C T S

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

GENERAL U. S. Department of Agriculture (Press Service, March 25): The Bureau of Entomology of the United States Department of Agriculture

has just completed the annual examination made for the purpose of determining the survival of boll weevils in Spanish moss. The examinations this year have been more extensive than has been the case in the past, including not only the usual points around the laboratory at Tallulah, La., but also representative points in extreme southern Louisiana and in South Carolina and Georgia. The records which follow indicate that as far as the initial emergence of the weevil is concerned the southeastern States may expect at least a normal number, sufficient, in fact, to be a serious control problem from the very beginning of the season in those fields nearest to hibernation shelter. From Alabama westward, however, it is evident that a lighter infestation will prevail on the average with the possible exception of the extreme Gulf Coast regions, but it is also evident that this infestation is going to be very abnormally "spotted". A peculiar combination of conditions last summer and fall produced exceedingly variable crops of weevils to go into hibernation and it will probably be found that regions of heavy infestation will be separated by only a few miles from regions of very light infestation. Minimum temperatures for the winter have been fairly high, certainly not below normal, and, as a consequence, survival among those weevils actually in hibernation has evidently been fairly high and emergence is going to be largely determined by the local abundance of weevils entering into hibernation in the fall.

In northern Louisiana a total of 3,258 pounds of moss at sixteen points in Madison, Tensas, and Richland Parishes was examined; in southern Louisiana 782 pounds were collected in Lafayette and St. Landry Parishes; in the Southeastern States, 2,478 pounds represented forty-nine points in Florence, Allendale and Dorchester Counties, South Carolina, and Decatur and Lowndes Counties, Georgia. The following tabulation shows the outline of results of these examinations since the records were started in 1915:

| Year | | Live weevils per ton of Moss |
|------|--------------------|---------------------------------|
| 1915 | Northern Louisiana | 10.0 |
| 1916 | " " | 24.0 |
| 1917 | " " | 3.0 |
| 1918 | " " | 1.7 |
| 1919 | " " | 4.0 |
| 1920 | " " | 9.5 |
| 1921 | " " | 22.0 |
| 1922 | " " | 127.0 |
| 1923 | " " | 19.0 |
| 1924 | " " | 0.5 |
| 1925 | " " | 0.6 |

Table showing results at new points of examination:

| | | |
|------|----------------------------|------|
| 1925 | Southern Louisiana | 31.0 |
| 1925 | Georgia and South Carolina | 31.0 |

North
Carolina

R. W. Leiby (March 20): Two boll weevils appeared in our wire-screened hibernation cages on March 12 at Aberdeen. These are

the first definitely known to have emerged from winter quarters in this State by workers of the Division of Entomology.

Louisiana W. E. Hinds (February 25): The Mexican boll weevils have been active in increasing numbers in hibernation cages at Baton Rouge during the past two weeks. The indications at the present time are for an unusually high per cent of survival and early emergence, at least in central Louisiana.

RICE

APHIDIDAE

Louisiana J. W. Ingram (March 20): Aphids have been found feeding on young rice in a number of fields in this vicinity (Crowley). Discolored areas were observed on the leaves of many of the plants which were apparently the result of the feeding of the aphids.

RICE STINK BUG (Solubea pugnax Fab.)

Louisiana J. W. Ingram (March 23): Indications are that a larger percentage of hibernating rice stink bugs survived the winter in the rice belt of southwestern Louisiana than in several years. This is probably due to the unusual dryness of the winter season and the lack of low temperature.

RICE WATER WEEVIL (Lissorhoptrus simplex Say)

Louisiana J. W. Ingram (March 23): The first water weevil feeding scar of the season was found on unfloded rice near Maxie. The weevil was found hiding in the soil at the base of the plant on which it has been feeding at night.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana United States Department of Agriculture, Bureau of Agricultural Economics (March 17): For the second time the Bureau of Agricultural Economics and the Bureau of Entomology have cooperated in estimating the damage to sugarcane in Louisiana due to the sugarcane moth borer. An estimate of the loss for 1924 has now been obtained, and it is 13 per cent of a normal or full crop. For 1923 the loss was 23 per cent of a full crop, for 1922 it was 17 per cent, and the usual loss has been determined as 19 per cent. The loss for 1924 is therefore quite low, and one reason for this is that the cold of the previous winter killed borers in exposed pieces of stubble and crops of cane left about the plantations, as was determined by the Bureau of Entomology. The prolonged drouth of the summer may also have reduced the number of borers.

It is interesting to note that the Bureau of Entomology estimated from their own field examinations, while the Bureau of Agricultural Economics estimates from answers to questionnaires sent to sugar planters. Until the final results were available one Bureau had no idea of the figure reached by the other Bureau. When the two

figures, obtained independently, were compared at last, they were found to agree within less than half of one per cent. The Bureau also finds that soaking the seed cane in water of ordinary temperatures for 72 hours kills the borers in the stalks and hastens the germination. A Louisiana planter is trying this treatment on a large scale.

The cooperating Bureaus estimate that the actual loss, expressed in terms of short tons of sugar, due to moth borer damage on the acreage used for sugar (excluding the acreage used for "seed" and sirup) in the Louisiana Cane Belt for the past three years is as follows:

| <u>YEAR</u> | <u>ACREAGE USED FOR SUGAR</u> | <u>LOSS OF SUGAR.</u> |
|-------------|-------------------------------|--|
| | <u>ACRES</u> | <u>SHORT TONS OF</u> <u>2000 lbs.</u> |
| 1922 | 241,433 | 61,565 |
| 1923- | 217,259 | 74,954 |
| 1924 | 180,000 | 35,100 |

WIREWORMS (Elateridae)

Louisiana T. E. Holloway and J. W. Ingram (March 17): Wireworms are again doing damage at a plantation near Morgan City. Last year they were practically limited to one low field, but this year they seem to be distributed over a large part of the plantation. Last year the most injurious species was determined as Melanotus sp., but this year practically all specimens were Monocrepidius lividus DeG. The damage is not serious so far. A heavy application of kainit is being tried.

NOTE J. A. Hyslop: The larvae above mentioned were sent to me for determination. The species as far as we have records is not of serious economic importance, but one of the forms which is normally predacious, and was possibly feeding on the more destructive wireworm (Melanotus sp.,) sent in from this same region last year.

TOBACCO

A TIGER MOTH (Apantesis phyllina Drury)

Florida F. S. Chamberlin (March 26): A field of newly set tobacco was observed March 25, at Quincy, being slightly damaged by larvae of Apantesis phyllina. The field had previously been in Bermuda grass.

FOREST AND SHADE-TREE INSECTS

MISCELLANEOUS FEEDERS

BAGWORM (Thyridopteryx ephemeræformis Haw.)

Mississippi H. Gladney (Quarterly Bulletin, State Plant Board of Mississippi, Volume 4, No. 4 (January): Last year the bagworm did considerable damage in many parts of the State by defoliating and ultimately killing valuable trees. This year the damage may be expected to be even greater as the egg supply this winter greatly exceeds that

of last winter. People with collections of valuable trees and shrubs should begin control measures now in order to avert the ravages of this pest next spring.

Missouri L. Haseman (March 18): In the western half of the State this pest is about the worst ever on evergreen, shade, ornamental, and fruit trees.

BOXELDER

BOXELDER PLANT-BUG (Leptocoris trivittatus Say)

Nebraska M. H. Swenk (January and February): Complaints of annoyance in houses through the presence of boxelder bugs have been somewhat more plentiful than normal during the period covered by this report.

ELM

ELM LEAF-BEETLE (Galerucella luteola Muell.)

California T. D. Urbahns (March 5): Elm trees were in bloom but adult beetles were not active up to this date. The beetles could be found in hibernation under old bark and became active as soon as they were disturbed.

PINE

SOUTHERN PINE BEETLE (Dendroctonus frontalis Zimm.)

South Carolina R. A. St. George (March 7): A visit on February 25 and 26 to the private estate of Mr. B. M. Baruch, located on a peninsula outside of Georgetown, revealed an outbreak of the southern pine beetle which has been in progress from 1922 at least up to the present time. Over 1,000 loblolly, pond, and longleaf pine trees, mostly the first-mentioned species, have died from the attacks of this beetle. It is reported that the trees were first noticed to begin to die shortly after a storm in 1916 when salt water was forced over the timber land, which is only 12 feet above sea level. It was thought that possibly the action of the salt upon the root system of the trees affected their growth and produced an effect similar to that caused by drought, which usually precedes an outbreak of this beetle. Weather records taken at Georgetown show that there was an excess of rainfall from 1920 to 1924, inclusive. Control measures have been in progress each winter since 1922. It is believed that the situation is now under control.

PINE SCALE (Chionaspis pinifoliae Fitch)

Nebraska M. H. Swenk (October, November, and December, 1924): Reports of injury by the pine-leaf scale have come in from several counties in the eastern part of the State during the period covered by this report, the injury, however, having occurred somewhat earlier in the season.

BARK BEETLES (Ips spp.)

GENERAL STATEMENT R. A. St. George (January 26): Additional reports are still being received from various lumber companies in Alabama, Louisiana, and Texas, relating to trees dying during the fall mainly from the

effects of the drought and subsequent attack by bark beetles (*Ips* species).

A portion of a letter from one lumber company in western Louisiana shows how extensive these losses have been in that section: "Our estimates based on actual scaling of dead trees in representative areas show a total of 9,300,000 feet of dead trees on 7,300 acres of timber. In one location the average on 440 acres actual measurement was 3,400 feet per acre, with a general average over the entire body of timber of 1,274 feet per acre."

Alabama and
Texas

R. A. St. George: As a result of a recent investigation in the South, in compliance with the request of several lumber companies, there were found to be some 70,000,000 feet of pine timber dead and dying in an area extending from Alabama to Texas. Most of the trees died within the last three months and the foliage on many of them started to fade within the past month. All of these trees were found to be infested, while their tops were still green, by the following species of bark beetles which were thought to be of only secondary importance: *Ips avulsus* Eichh., *I. calligraphus* Germn., and *I. grandicollis* Eichh. The last species was not present in very great numbers.

In addition to bark beetles the trees were found to be dying from the combined effects of such agencies as drought, unfavorable soil conditions, fire and turpentine. Drought appeared to be the most important agency and probably the primary cause of the present condition of the trees.

Longleaf pine (*Pinus palustris* Miller) covered the greater part of the area investigated and, consequently, was the species most affected. Other species infested were shortleaf (*Pinus echinata* Miller), loblolly (*Pinus taeda* Linn.) and slash pine (*Pinus heterophylla* Sudw.) A greater part of the infested timber lies in eastern Texas, centered about Zavalla, Angelina County, although a considerable amount is in the eastern and western parts of Louisiana, especially the western. Smaller areas of infestation were found in southern Mississippi and eastern Alabama. Several of the turpentine and lumber interests are suffering heavy losses as a result of the present situation.

NANTUCKET TIP MOTH (*Rhyacionia frustrana* Comst.)

Louisiana

Monthly Letter, Bureau of Entomology, No. 130 (February): The Nantucket tip moth was found to be quite abundant in certain plantations of loblolly and slash pine in eastern Louisiana. The former species was considerably stunted in its growth. In some cases young growth about 5 years of age had attained only half of its normal height. The slash pine was only slightly affected in its growth.

SPRUCE

SPRUCE GALL APHID (*Chermes abietis* L.)

New York

C. R. Crosby (February 27): Infested spruce twigs were received from Dryden.

WILLOW

AN APHID (Lachnus viminalis Boyer)

Nebraska

M. H. Swenk (October, November, and December, 1924): In Adams County an ornamental willow tree showed a very heavy infestation with the aphid Lachnus viminalis Boyer during the last week in October.

INSECTS ATTACKING

GREENHOUSE AND ORNAMENTAL

PLANTS

~~CHAMA~~ (Scapteriscus vicinus Scud.)

Georgia

Monthly Letter, Bureau of Entomology, No. 130 (February): W. A. Thomas, Chadbourn, N. C. visited Brunswick, Ga., to investigate an outbreak of Porto Rican mole crickets attacking the greens of the Jekyl Island Golf Club.

CITRUS MEALYBUG (Pseudococcus citri Risso)

Nebraska

M. H. Swenk (October, November, and December 1924): Complaints of injury by the common mealybug, and especially on coleus, begonias, petunias, etc., were more numerous than usual during the period covered by this report. (January and February): About the normal number of complaints of infestation of coleus, geraniums and other house plants with this pest were received during the period covered by this report.

FICKLE MIDGE (Sciara inconstans Fab.)

Nebraska

M. H. Swenk (October, November, and December 1924): A report of a heavy infestation of potted plants in a house in Saunders County with the fickle midge was sent in during the latter part of October.

IVY SCALE (Aspidiotus hederæ Vallot)

Nebraska

M. H. Swenk (October, November, and December 1924): Complaints of injury by this insect were received. (January and February): about the normal number of complaints of infestation of oleanders with this pest were received during the period covered by this report.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Maryland

P. D. Sanders (February 9): The Sadonia hedge around Montibello Lake, Baltimore, was severely injured.

SCURFY SCALE (Chionaspis furfura Fitch)

Maryland P. D. Sanders (February 9): Sadonia hedge at Montibello, Baltimore, was crusted with the scales.

HEMISPHERICAL SCALE (Saissetia hemisphaerica Targ.)

Nebraska M. H. Swenk (October, November, and December, 1924): The hemispherical scale was reported attacking ferns. (January and February): About the normal number of complaints of infestation of ferns with this pest were received during the period covered by this report.

INSECTS AFFECTING MAN

AND DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicidae)

Connecticut R. C. Botsford (March 20): Heavy breeding in shallow pools at Westbrook. Probably Aedes cantator. Early breeding record for this State. Larva is half grown.

Mississippi R. W. Harned (March 25): On February 25, H. Gladney wrote from Ocean Springs as follows: "Mosquitoes are very bad here. People say they have never known them to be here in such numbers at this time of the year. Several people have remarked that they were blown in by a south wind." These mosquitoes were sent to Dr. L. O. Howard, who replied as follows: "Doctor Dyar finds one male of Aedes sollicitans Walk. which, as you know, is a salt-marsh species; and one male and one female of Culex quinquefasciatus Say, the common rain-water-barrel mosquito. Of course the Culex was a local production, but the sollicitans may have migrated from nearby salt-marsh, assisted by the wind. Sollicitans is known to be a great traveller."

HORSES

HORSE BOT-FLY (Gastrophilus intestinalis DeG.)

Missouri E. Haseman (March 18): This pest seems not to have been as abundant as usual this winter and spring.

Texas F. L. Thomas (February 27): At Macogdoches this insect was noticed to be very abundant on the legs of a horse.

HORSE LOUSE (Haematopinus asini L.)

Nebraska M. H. Swenk (January and February): An unusual insect

parasite for this State came to our attention in middle February in the form of the infestation of a number of horses in Cass County with the sucking louse Haematopinus asini.

CATTLE

OX WARBLE (Hypoderma lineatum DeVill.)

- Missouri L. Haseman (March 18): This pest seems not to have been as abundant as usual this winter and spring.
- Texas D. C. Parman (March 20): The ox warble appeared early last fall (the latter part of August) at Uvalde and has continued in the backs of cattle later than usual, an occasional larva is still found. (March 20): The heel fly activity was quite noticeable on several days during February and the height of the activity probably occurred during the month.

HORN FLY (Haematobia irritans L.)

- Texas D. C. Parman (March 20): The horn fly has not appeared at Uvalde in noticeable numbers, most of the cattle have no adults, a very few as many as 25.

SCREWORM (Chrysomya macellaria Fab.)

- Texas D. C. Parman (March 20): The adults of the screwworm appeared the last days of February and the trapping on March 14- 6 per cent were Chrysomya macellaria.

CATTLE LOUSE (Trichodectes scalaris Nitzsch)

- Missouri L. Haseman (March 18): Some are complaining of cattle lice.

HOGS

HOG LOUSE (Haematopinus suis L.)

- Missouri L. Haseman (March 18): Hog louse is always present here.

POULTRY

CHICKEN MITE (Dermanyssus gallinae Redi)

- Missouri L. Haseman (March 18): The chicken mite has begun its work and is abundant.

CHICKEN LICE

- Missouri L. Haseman (March 18): Lice are abundant on chickens this spring.

STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Texas D. C. Parman (March 20): The hen flea is appearing in good numbers at Uvalde and some losses are being had where precautions are not being taken. The infestations have been found in a few instances where there were 1,000 or more fleas on most fowls. The first active adults were observed February 10.

FOWL TICK (Argas miniatus Koch)

Texas D. C. Parman (March 20): The fowl tick does not appear to be so abundant this season as during the past two seasons. They are present in good numbers in all hen houses where strick remedial measures are not applied. Slight activity begun the last week in February and considerable activity has been observed during the first part of March. The more thorough remedial measures probably account for the lighter infestations.

ANTS (Formicidae)

Alabama W. A. Ruffin (March 10): Investigated in Geneva County the various species of ants that have been causing considerable trouble to the people interested in poultry production. In some cases the ants were so abundant and so destructive to the young chickens that out of a 500 hatch only from 25 to 30 chickens were raised. These ants are rather abundant over the whole State. We have not yet determined the specific name of the ant, but hope to do so in the very near future.

INSECTS INFESTING HOUSES

AND PREMISES

CLOTHES MOTH (Tinea pellionella L.)

Missouri L. Haseman (March 18): Clothes moths seem more abundant than usual and many are complaining of damage done last summer and fall.

BEAN WEEVIL (Bruchus obtectus Say)

New York C. R. Crosby (February 25): Many specimens found in house at Auburn.

A BEETLE, Anobium punctatum DeG.

Kansas H. B. Hungerford (March 19): This beetle, commonly called "death watch" had quite seriously damaged several large volumes of books in the University Library, Lawrence, which were purchased from Gembier, Paris, France.

CLOVER MITE (Bryobia praetiosa Koch)

California A. O. Larson (March 16): Specimens were collected March 16 at Alhambra and identified by Dr. H. E. Ewing March 24. Attacking

storksbill, wild radish, and mustard. The normal food of these mites was drying up on a vacant lot near a house and the mites were migrating to the house, which was a fine stucco house two years old. The mites were coming into the kitchen, bedroom and bathroom and covering everything.

A TERMITE, Reticulitermes tibialis Banks

Nebraska

M. H. Swenk (October, November, and December, 1924): Additional houses harboring an infestation with the termite, Reticulitermes tibialis, to those mentioned in my report for August were reported from Grand Island, Hall County, in early October. This same pest was reported as having destroyed many flowers during the summer of 1924 and as having also destroyed wooden articles near at hand, in middle October, from Johnson County. (January and February): An additional report of injury to a house by this common species of termite was received early in January from Wood River, Hall County.

LARDER BEETLE (Dermestes lardarius L.)

Massachusetts A. I. Bourne (March 25): A few days ago an interesting case was brought to my attention of a lot of English walnuts found to be infested with the common larder beetle. Attention was called to this infestation when the shells were cracked and in several cases adult beetles were found within the shells, apparently unable to get out. In some cases the beetles were dead. From an examination of the nuts, apparently entrance had been made by very small larvae, because there was no indication of noticeable entrance holes anywhere on the nuts or in the seams between the two halves of the shell. Apparently the larvae found food conditions satisfactory and carried through to the adult stage. The beetle to all appearances was unable to get out. In some cases we found the live beetles in the nuts when they were cracked, and in a few instances dead beetles were found. It is known of course, that this species has considerable latitude in its feeding habits, but this is the first instance which has been brought to our attention of this species attacking English walnuts. The infestation was not particularly heavy, and possibly the reason can be found in the fact that the beetles, coming to maturity inside the nuts, died before they could get out, and thus the spread of the infestation was automatically stopped.

CAT AND DOG FLEA (Otenoccephalus canis Curtis and C. felis Bouche')

Nebraska

M. H. Swenk (October, November and December, 1924): Several infestations of premises with fleas were received during October.

AN INTRODUCED FLY, Muscina pascuorum Meig.

Connecticut

W. E. Britton (March 24): Very abundant at New Haven in 1923 not a specimen seen in 1924. One taken on the laboratory window March 10, 1925.

Maryland and
Virginia

B. I. Shannon (March 27): In the Fall of 1923 a single specimen was taken at Plummer's Island; in 1924 a single specimen was taken during August at the same place, and March 26, 1925, 12 specimens were taken on the mainland on the Virginia side across from the Island, lapping the sap from a sugar maple tree.

I N S E C T S I N J U R I O U S T O

S T O R E D P R O D U C T S

MEAL MOTH (Pyralis farinalis Comst.)

Missouri

L. Haseman (March 18): Thus far at Columbia have not observed the meal moths on wing, so I doubt if the pest proves serious with us there.

GRANARY WEEVIL (Calandra granaria L.)

Nebraska

M. E. Swenk (January and February): About the normal number of complaints of injury by stored grain pests have been received during the months of January and February. These have related chiefly to the true granary weevil.

INDIAN-MEAL MOTH (Plodia interpunctella Fuebn.)

Nebraska

M. E. Swenk (January and February): About the normal number of complaints of injury by stored grain pests have been received during the months of January and February. These have related chiefly to the Indian-meal moth.

HIDE BEETLE (Dermestes vulpinus Fab.)

Florida

Monthly Letter, Bureau of Entomology, No. 128, (December, 1924): On December, 2 E. A. Baughan visited Port Saint Joe to investigate a most interesting outbreak of this insect in an establishment producing fish oil and fish scrap.

NOTES FROM THE FEDERAL HORTICULTURAL BOARD, December 26, 1924

I N T E R C E P T I O N S

Several interceptions have been made recently at the port of New York of insects in the mail. While for the most part the insects consisted of butterflies, mounted, two packages were received, one from Germany and the other from Czecho-Slovakia, which contained living Lepidopterous pupae.

The Inspector of the Charleston, S. C. office made a very

important interception on October 27. A trunk, the contents of which were manifested as "one case preserves in tin", arrived at Charleston, S. C., on the SS. Mohawk. The consignment came from Palermo, Italy, via New York. Upon examination, the inspector, found the trunk to contain artichoke roots which were infested with insects. In addition to several common insects, there was a Crytorhynchid weevil, a specimen of which is not in the National Museum Collection. Nothing is known of the habits of this weevil. Lepidopterous larvae were found and identified by specialists as representing a species of Eucosma, a root borer, which is injurious to plant life.

The Collector of Customs at Charleston was requested to have the artichoke roots removed from the United States or destroyed by burning.

The importance of carefully inspecting baggage of passengers is emphasized by the finding of upwards of a dozen larvae of the Mediterranean fruit-fly in one tangerine examined out of a lot of three dozen taken from the baggage of a passenger arriving at New York on the SS. Duilio from Naples, Italy. The vessel came from Naples direct and carried 1,100 passengers.